



CONTENTS OF VOLUME 144

Vol. 144B, No. 1

General papers

- | | | |
|---|-----|--|
| J.-H. Hwang, Y. Yokoyama, S. Mizuta and R. Yoshinaka | 1 | cDNA cloning and characterization of Type I procollagen $\alpha 1$ chain in the skate <i>Raja kenoei</i> |
| F.-C. Yeh, S.-H. Wu, C.-Y. Lai and C.-Y. Lee | 11 | Demonstration of nitric oxide synthase activity in crustacean hemocytes and anti-microbial activity of hemocyte-derived nitric oxide |
| J.-W. Park, M. Hecker, M.B. Murphy, P.D. Jones, K.R. Solomon, G. Van Der Kraak, J.A. Carr, E.E. Smith, L. du Preez, R.J. Kendall and J.P. Giesy | 18 | Development and optimization of a Q-RT PCR method to quantify <i>CYP19</i> mRNA expression in testis of male adult <i>Xenopus laevis</i> : Comparisons with aromatase enzyme activity |
| P.-E. Mauger, P.-Y. Le Bail and C. Labbé | 29 | Cryobanking of fish somatic cells: Optimizations of fin explant culture and fin cell cryopreservation |
| A. Mancia, T.A. Romano, H.A. Gefroh, R.W. Chapman, D.L. Middleton, G.W. Warr and M.L. Lundqvist | 38 | The Immunoglobulin G Heavy Chain (<i>IGHG</i>) genes of the Atlantic bottlenose dolphin, <i>Tursiops truncatus</i> |
| S. Klomklao, S. Benjakul, W. Visessanguan, H. Kishimura, B.K. Simpson and H. Saeki | 47 | Trypsins from yellowfin tuna (<i>Thunnus albacores</i>) spleen: Purification and characterization |
| S. Morais, M.J. Caballero, L.E.C. Conceição, M.S. Izquierdo and M.T. Dinis | 57 | Dietary neutral lipid level and source in Senegalese sole (<i>Solea senegalensis</i>) larvae: Effect on growth, lipid metabolism and digestive capacity |
| T. Sledzinski, A. Nogalska, A. Hebanowska, J. Klimek and J. Swierczynski | 70 | Gender- and age-related changes in 6-phosphogluconate dehydrogenase gene expression in white adipose tissue of rats (<i>Rattus norvegicus</i>) are not related to serum testosterone concentration |
| S.S. Bouchard and K.A. Bjørndal | 77 | Nonadditive interactions between animal and plant diet items in an omnivorous freshwater turtle <i>Trachemys scripta</i> |
| J.L. Thompson, P.M. Thomas and K.A. Schuller | 86 | Purification and properties of a glutathione peroxidase from Southern bluefin tuna (<i>Thunnus maccoyii</i>) liver |
| R.K. Sardana, R. Awad, J.T. Arnason and V.L. Trudeau | 94 | Expression of recombinant goldfish glutamic acid decarboxylase 65 and evidence for differential pH and PLP responsiveness compared to the human enzyme |
| O. Marinotti, M.d.L. Capurro, X. Nirmala, E. Calvo and A.A. James | 101 | Structure and expression of the lipophorin-encoding gene of the malaria vector, <i>Anopheles gambiae</i> |
| G.M. Turchini, D.S. Francis and S.S. De Silva | 110 | Fatty acid metabolism in the freshwater fish Murray cod (<i>Maccullochella peelii peelii</i>) deduced by the whole-body fatty acid balance method |

K.A. Johansen and K. Overturf

- 119 Alterations in expression of genes associated with muscle metabolism and growth during nutritional restriction and refeeding in rainbow trout

**M.P. Matsuoka, S. van Nes,
Ø. Andersen, T.J. Benfey and M. Reith**

- 128 Real-time PCR analysis of ovary- and brain-type aromatase gene expression during Atlantic halibut (*Hippoglossus hippoglossus*) development

I Instructions to Authors

Vol. 144B, No. 2

General papers

**M. Patruno, L. Maccatrozzo,
B. Funkenstein and G. Radaelli**

- 137 Cloning and expression of insulin-like growth factors I and II in the shi drum (*Umbrina cirrosa*)

K. Grzyb and E.F. Skorkowski

- 152 Purification and some properties of two creatine kinase isoforms from herring (*Clupea harengus*) spermatozoa

**Y. Wen, J.-Z. Shao, L.-X. Xiang and
W. Fang**

- 159 Cloning, characterization and expression analysis of two *Tetraodon nigroviridis* interleukin-16 isoform genes

**N. Ballatori, J.H. Henson, D.J. Seward,
S.-Y. Cai, M. Runnegar, G. Fricker,
D.S. Miller and J.L. Boyer**

- 167 Retention of structural and functional polarity in cultured skate hepatocytes undergoing in vitro morphogenesis

T. Fujita, M. Kajita and H. Sano

- 180 Responses of whole body protein synthesis, nitrogen retention and glucose kinetics to supplemental starch in goats

H. Takle, A. McLeod and O. Andersen

- 188 Cloning and characterization of the executioner caspases 3, 6, 7 and Hsp70 in hyperthermic Atlantic salmon (*Salmo salar*) embryos

**S.M. Yoe, C.S. Kang, S.S. Han and
I.S. Bang**

- 199 Characterization and cDNA cloning of hinnavin II, a cecropin family antibacterial peptide from the cabbage butterfly, *Artogeia rapae*

**S.J. Matthews, N.W. Ross, S.P. Lall and
T.A. Gill**

- 206 Astaxanthin binding protein in Atlantic salmon

**M. Gandra, E.O. Kozlowski,
L.R. Andrade, C.M. de Barros,
B.M.O. Pascarelli, C.M. Takiya and
M.S.G. Pavão**

- 215 Collagen colocalizes with a protein containing a decorin-specific peptide in the tissues of the ascidian *Styela plicata*

A. Adamowicz, A. Gizak and A. Dzugaj

- 223 Subcellular localization of muscle FBPase in carp (*Cyprinus carpio*) tissues

**M.J. Fernández-Reiriz, U. Labarta,
M. Albentosa and A. Pérez-Camacho**

- 229 Lipid composition of *Ruditapes philippinarum* spat: Effect of ration and diet quality

**N. Odintsova, V. Dyachuk, K. Kiselev and
N. Shelud'ko**

- 238 Expression of thick filament proteins during ontogenesis of the mussel *Mytilus trossulus* (Mollusca: Bivalvia)

**D.R. Tocher, J.R. Dick,
P. MacGlaughlin and J.G. Bell**

- 245 Effect of diets enriched in $\Delta 6$ desaturated fatty acids ($18:3n-6$ and $18:4n-3$), on growth, fatty acid composition and highly unsaturated fatty acid synthesis in two populations of Arctic charr (*Salvelinus alpinus* L.)

M. Yano, K. Nagai, K. Morimoto and
H. Miyamoto

254 Shematrin: A family of glycine-rich structural proteins in the shell of the pearl
oyster *Pinctada fucata*

I Instructions to Authors

Vol. 144B, No. 3

General papers

K.L. Sweazea and E.J. Braun

263 Glucose transporter expression in English sparrows (*Passer domesticus*)

H. Guderley, P. Houle-Leroy,
G.M. Diffie, D.M. Camp and
T. Garland Jr.

271 Morphometry, ultrastructure, myosin isoforms, and metabolic capacities of the
"mini muscles" favoured by selection for high activity in house mice

V.I. Lushchak and T.V. Bagnyukova

283 Effects of different environmental oxygen levels on free radical processes in fish

Y. Jin and A.L. DeVries

290 Antifreeze glycoprotein levels in Antarctic notothenioid fishes inhabiting different
thermal environments and the effect of warm acclimation

J. Ciurazkiewicz, M. Olczak and
W. Wątarek

301 Isolation, cloning and sequencing of transferrins from red-eared turtle, African
ostrich, and turkey

S.J. Pasquaré, G.A. Salvador and
N.M. Giusto

311 Age-associated changes of insulin action on the hydrolysis of diacylglycerol
generated from phosphatidic acid

C. Chabasse, X. Bailly, M. Rousselot and
F. Zal

319 The multigenic family of the extracellular hemoglobin from the annelid polychaete
Arenicola marina

H. Oku, M. Tokuda, T. Okumura and
T. Umino

326 Effects of insulin, triiodothyronine and fat soluble vitamins on adipocyte
differentiation and LPL gene expression in the stromal-vascular cells of red sea
bream, *Pagrus major*

A.F. Vitorino-Cardoso,
O.H. Pereira Ramos,
M.I. Homsí-Brandeburgo and
H.S. Selistre-de-Araujo

334 Insights into the substrate specificity of a novel snake venom serine peptidase by
molecular modeling

P. Green, A. Luty, S. Nair, J. Radford and
D. Raftos

343 A second form of collagenous lectin from the tunicate, *Styela plicata*

E. Veiseth, S.O. Fjæra, B. Bjerkeng and
P.O. Skjervold

351 Accelerated recovery of Atlantic salmon (*Salmo salar*) from effects of crowding by
swimming

A.Y. Kuo, J.C. Lee, G. Magnin,
P.B. Siegel and D.M. Denbow

359 Differential autonomic nervous system response in obese and anorexic chickens
(*Gallus gallus*)

Y.S. Choi, K.S. Lee, H.J. Yoon, I. Kim,
H.D. Sohn and B.R. Jin

365 *Bombus ignitus* Cu,Zn superoxide dismutase (SOD1): cDNA cloning, gene
structure, and up-regulation in response to paraquat, temperature stress, or
lipopolysaccharide stimulation

D. Hauton, S.B. Richards and
S. Egginton

372 The role of the liver in lipid metabolism during cold acclimation in non-hibernator
rodents

M. Thomson, J.F. Herbert and
M.B. Thompson

382 Tyrosine phosphorylated proteins in the reproductive tract of the viviparous lizard
Eulamprus tympanum and the oviparous lizard *Lampropholis guichenoti*

**K.L. Sweazea, J.P. McMurtry and
E.J. Braun**

**H. Tsukamoto, Y. Yokoyama,
T. Suzuki, S. Mizuta and R. Yoshinaka**

General papers

**S. Poelmans, T. Verslycke,
E. Monteyne, H. Noppe, K. Verheyden,
C.R. Janssen and H.F. De Brabander**

**K. Tomimoto, T. Hayakawa and
H. Hori**

**M.J. Hatfield, S. Gillespie, Y. Chen,
Z. Li, C.J. Cassady and J.B. Vincent**

**L.M. Peltonen, S. Sankari, A. Kivimäki and
P. Autio**

**N. García, E. Martínez-Abundis,
N. Pavón and E. Chávez**

M. Blank, R. Bastrop and K. Jürss

S. Li, L. Xie, Q. Meng and R. Zhang

**S.A. Gahr, G.M. Weber and
C.E. Rexroad III**

Y. Gao, C.M. Gillen and M.G. Wheatly

**M.R. Saha, N.W. Ross, R.E. Olsen and
S.P. Lall**

**A. Szabó, H. Fébel, M. Mézes,
K. Balogh, P. Horn and R. Romvári**

**Y. Kawakami, D.-H. Shin, T. Kitano,
S. Adachi, K. Yamauchi and H. Ohta**

**K.A. Hyndman, K.P. Choe,
J.C. Havird, R.E. Rose,
P.M. Piermarini and D.H. Evans**

**K.A. Johansen, W.M. Sealey and
K. Overturf**

**L. Bédouet, F. Rusconi, M. Rousseau,
D. Duplat, A. Marie, L. Dubost,
K. Le Ny, S. Berland, J. Péduzzi and
E. Lopez**

387 Inhibition of lipolysis does not affect insulin sensitivity to glucose uptake in the mourning dove

395 Expression of fugu TIMP-3 and -4 genes in adult tissues and embryos

I Instructions to Authors

Vol. 144B, No. 4

405 Testosterone metabolism in *Neomysis integer* following exposure to benzo(a)-pyrene

413 Pronase digestion of brush border membrane-bound Cry1Aa shows that almost the whole activated Cry1Aa molecule penetrates into the membrane

423 Low-molecular-weight chromium-binding substance from chicken liver and American alligator liver

432 Novel function of the skin in calcium metabolism in female and male chickens (*Gallus domesticus*)

442 Sodium inhibits permeability transition by decreasing potassium matrix content in rat kidney mitochondria

451 Stress protein response in two sibling species of *Marenzelleria* (Polychaeta: Spionidae): Is there an influence of acclimation salinity?

463 Significance of the extra C-terminal tail of CaLP, a novel calmodulin-like protein involved in oyster calcium metabolism

472 Fasting and refeeding affect the expression of the Inhibitor of DNA Binding (ID) genes in rainbow trout (*Oncorhynchus mykiss*) muscle

478 Molecular characterization of the sarcoplasmic calcium-binding protein (SCP) from crayfish *Procambarus clarkii*

488 Astaxanthin binding to solubilized muscle proteins of Atlantic salmon (*Salmo salar* L.), haddock (*Melanogrammus aeglefinus* L.) and Atlantic halibut (*Hippoglossus hippoglossus* L.)

496 Body size related adaptations of the avian myocardial phospholipid fatty acyl chain composition

503 Transactivation activity of thyroid hormone receptors in fish (*Conger myriaster*) in response to thyroid hormones

510 Neuronal nitric oxide synthase in the gill of the killifish, *Fundulus heteroclitus*

520 The effects of chronic immune stimulation on muscle growth in rainbow trout

532 Identification of low molecular weight molecules as new components of the nacre organic matrix

**S. Rawdkuen, S. Benjakul,
W. Visessanguan and T.C. Lanier**

544 Partial purification and characterization of cysteine proteinase inhibitor from chicken plasma

I Contents of Volume

VI Subject Index

IX Author Index

XI Instructions to Authors

SUBJECT INDEX

Vol. 144B, Nos. 1-4

- Adipocyte, 326
- ADP, 442
- Adult, 311
- AFGP, 290
- African ostrich, 301
- Age, 70
- Aged, 311
- Aldolase, 223
- Allele, 38
- Alligator, 423
- Allometry, 496
- Alpha actinin, 206
- Amino acid absorption, 180
- Amphibians, 18
- Anal fin, 29
- Annelid, 319
- Anoxia, 283
- Antarctic fish, 290
- Antibacterial peptide, 199
- Antibody, 38
- Antifreeze glycoprotein, 290
- Antioxidant enzyme, 365
- Antioxidant enzymes, 283
- Apoptosis, 188
- Arctic charr, 245
- Aromatase, 128
- Artemia* enrichment, 57
- Artificial selection, 271
- Artogeia rapae*, 199
- Ascidian, 215, 343
- Associative effects, 77
- Astaxanthin, 206
- Astaxanthin-binding, 488
- Atlantic halibut, 128, 488
- Atlantic salmon, 351, 488
- ATP, 167
- Autolysis, 544
- Avian, 263, 432
- Bacillus thuringiensis*, 413
- Bactericidal activity, 11
- BBMV, 413
- Benzo(a)pyrene, 405
- Bile secretion, 167
- Biomarker, 405
- Birds, 496
- 6-Bisphosphatase, 223
- Body size, 496
- Body weight, 359
- Bombus ignitus*, 365
- Bombyx mori*, 413
- Bothrops alternatus*, 334
- Bottlenose dolphin, 38
- Bsep, 167
- Bumblebee, 365
- Ca²⁺/Mg²⁺, 463
- Cachexia, 520
- Calcification, 254
- Calcium, 442
- Calcium metabolism, 463
- Calmodulin-like protein, 463
- Carassius auratus*, 29
- Carbonylproteins, 283
- Carboxyatractyloside, 442
- Carotenoid, 206
- Caspase-3*, 188
- Caspase-6*, 188
- Caspase-7*, 188
- Catecholamine, 359
- cDNA cloning, 1, 334, 365
- cDNA sequencing, 334
- Cecropin, 199
- Cerebral cortex, 311
- Characterization, 159
- Chicken, 359, 423, 432
- Chicken plasma, 544
- Chromium, 423
- Chromodulin, 423
- Chronic immune stimulation, 520
- Clams growth, 229
- Cloning, 159
- Cold acclimation, 372
- Collagen, 1, 215
- Collagenous lectin, 343
- Collectin, 343
- Comparative analysis, 334
- Conformational change, 463
- Conger eel, 503
- Cortisol, 351
- Crayfish, 478
- Creatine kinase, 152
- Crowding, 351
- Crustacean, 11
- Cry toxin insertion, 413
- Cry1Aa, 413
- Cryobanking, 29
- Cu,Zn superoxide dismutase (SOD1), 365
- cyp19a*, 128
- cyp19b*, 128
- Cyprinidae, 29
- Cyprinus carpio*, 223
- Cysteine proteinase inhibitor, 544
- Cytochrome P450 modulator, 405
- Decorin, 215
- Deformities, 188
- Dermatan sulfate, 215
- $\Delta 5$ -desaturase, 110
- $\Delta 6$ -desaturase, 110
- Desaturation, 245
- Development, 188
- Diacylglycerol, 311
- Differentiation, 326
- Digestibility, 77
- Digestive enzymes, 57
- Dimer, 152
- DMSO, 29
- Docosahexaenoic acid, 496
- Dove, 387
- Echium oil, 245
- Elasmobranch, 1
- Electrospray ionization, 532
- Elongase, 110
- Elongation, 245
- Embryo, 1, 395
- Energy intake, 180
- Enterocytes, 57
- Estrogen synthesis, 18
- Evolution, 38, 301
- Exercise, 271
- Experimental evolution, 271
- Extra C-terminal tail, 463
- Fasting, 472
- Fat body, 101
- Fatty acid, 387, 496
- Fatty acid oxidation, 372
- Fatty acids, 229
- Fermentation, 77
- Fibre types, 271
- Ficolin, 343
- Fish, 1, 152, 395
- Fluorescence intensity, 488
- Food intake, 359
- Framework, 254
- Freezing, 29
- Freshwater fish, 110
- Freshwater turtle, 77
- Frog, 18

Subject Index

- Fructose 1, 223
Fundulus heteroclitus, 510
- Gender, 70
 Gene expression, 472
 Gene quantification, 18
 Gene structure, 365
 Gill, 510
 Glucose, 387
 Glucose kinetics, 180
 Glucose transporter (GLUT), 263
 Glutathione, 167, 283
 Glutathione peroxidase, 86
 Glycine-rich, 532
 Glycine-rich protein, 254
 Glyconeogenesis, 223
 Goat, 180
 Goldfish, 29, 283
 Gonadal differentiation, 128
 Growth, 119, 472
 GST-fusion, 94
- H₂S, 319
 Haddock, 488
 HBL-Hb, 319
 Heart, 496
 Heat exposure, 188
 Heat shock proteins, 451
 α -Helix, 413
 Hemocyte, 11
 Hemoglobin, 319
 Hemolymph, 101
 Herring, 152
 Hinnavin II, 199
 Hinnavin II gene, 199
 Homology modeling, 334
Hsp70, 188
Hsp70 family, 451
 Hyperoxia, 283
 Hypoxia, 283
 Hypoxia/oxygenation, 442
- ID genes, 472
 IGFs, 137
 IgG, 38
 IGHG1, 38
 IGHG2, 38
 Immunoglobulin G, 38
 Immunohistochemistry, 137, 263
 Immunolocalization, 215
 Inhibitor of Differentiation/DNA Binding, 472
 Innate immunity, 343
 Insect, 365
 Insect immunity, 199
 Insulin, 311, 387
 Interleukin-16 (IL-16), 159
 Interstitial fluid, 432
 Invasive sibling species, 451
 Invertebrates, 405
- Ion transport, 510
 Ionized calcium, 432
 Iron acquisition, 301
 Isoform, 152
 Isolation, 47
 Isotope dilution, 180
 Isotype, 38
- Kidney mitochondria, 442
 Killifish, 510
K_m, 86
- Larva, 238
 α -linolenic acid, 110
 Linoleic acid, 110
 Lipid, 101
 Lipid absorption, 57
 Lipid classes, 229
 Lipid peroxides, 283
 Lipid vacuoles, 57
 Lipids, 229, 245
 Lipogenesis, 372
 Lipolysis, 387
 Lipopolysaccharide, 11
 Lipoprotein, 101
 Lipoprotein lipase (LPL), 326
 Liver, 86
 Liver metabolism, 372
 Lizard, 382
 Locomotion, 271
 Low-molecular-weight chromium-binding substance, 423
- MALDI-MS, 199
 Malondialdehyde, 496
 Maltose binding protein fusion, 94
 Mantle, 254
Marenzelleria, 451
 Mass spectrometry, 532
 Membrane transport, 167
 Metabolic capacities, 271
 Metabolism, 119, 245
 Metabolites, 532
 Metamorphosis, 503
 Microalgal diets, 229
 Mitochondrial creatine kinase, 152
 Mitochondrion-rich cell, 510
 Mixed diets, 77
 Molecular mass, 86
 Molecular methods, 18
 Molecular phylogeny, 301
 Mollusc, 238, 254
 Monoacylglycerol, 311
 Mosquito, 101
 Mother-of-pearl, 532
 Mrp2, 167
 Muscle, 119, 472, 520
 Muscle pH, 351
 Muscle proteins, 488
 Muscle structure, 271
- Mussel, 238
 Myogenesis, 238
 Myorod, 238
 Myosin, 238
- Nacre, 532
Neomysis integer, 405
 Nerve, 510
 Neuronal nitric oxide, 510
 Neurotransmitter, 359
 Nitric oxide, 11
 Nitric oxide synthase, 11
 Nitrogen retention, 180
 Nonadditive effects, 77
 Notothenioid, 290
 N-terminal amino acid sequence, 47
 Nucleotide sequence, 1
 Nucleus, 223
 Nutritional ecology, 77
- Oatp, 167
 Octamer, 152
 Oleic acid, 57
 Optimization, 18
 Oviparity, 382
 Ovotransferrin, 301
 β -oxidation, 110
 Oxidative stress, 283, 365, 442
- Pagrus major*, 326
 Paramyosin, 238
 Paraquat, 365
 Pearl oyster, 254, 463
 Peptides, 532
 Permeability transition, 442
 pH, 432
 pH optimum, 86
 Phenylalanine, 180
 Phosphatidic acid, 311
 6-phosphogluconate dehydrogenase, 70
 Phospholipid, 496
 Pigment, 206
Pinctada fucata, 463
Pinctada margaritifera, 532
 Plasma membrane, 413
 PLP-binding, 94
 Polarized hepatocyte culture model, 167
 Polychaetes, 451
 Pore formation, 413
 Potassium, 432, 442
 Primary culture, 29
 Primitive chordate, 215
 Prismatic layer, 254
Procambarus clarkii, 478
 pro-IL-16 isoform 1, 159
 pro-IL-16 isoform 2, 159
 Protease digestion, 413
 Protein synthesis, 180
 Proteoglycan, 215

- PUFA, 245
 Purification, 47, 86, 152, 544

 Quantification, 290
 Quantitative real-time PCR, 395

 Rainbow trout, 119, 472, 520
 5'-rapid amplification of cDNA ends (RACE), 199
 Rapid amplification of cDNA ends (RACE), 395
 Rat, 70
 Rat kidney, 442
 Reactive oxygen species (ROS), 365
 Real-time PCR, 119
 Real-time PCR, 472
 Real-Time PCR, 137
 Recombinant goldfish GAD65, 94
 Recombinant human GAD65, 94
 Recombinant serine peptidase, 334
 Recovery, 351
 Red eared turtle, 301
 Red sea bream, 326
 Repeats, 532
 Reproduction, 382
 Reserpine, 359
 Rigor mortis, 351
 RT-PCR, 1, 263

 Salinity acclimation, 451
 Salmon coloration, 206
 SCP, sarcoplasmic calcium-binding protein, 478

 SERCA, sarco/endoplasmic reticulum Ca^{2+} ATPase, 478
 Serine proteinase, 47
 Serotonin, 359
 Sexual differentiation, 128
 Shell, 254
 Skate, 1
 Skin, 432
 Snake venom, 334
 Sodium, 432, 442
 Southern bluefin tuna, 86
 Sparrow, 263
 Spermatozoa, 152
 Spleen, 47
 Starch, 180
 Stromal-vascular cells, 326
Styela plicata, 343
 Subclass, 38
 Sulfide-binding function, 319
 Swimming, 351
 Sympathetic nervous system, 359
 Synaptosomes, 311

Takifugu rubripes, 395
 Target interaction, 463
 TCA precipitation, 290
 Teleost, 326, 395
 Temperature stress, 451
 Testosterone, 70
 Testosterone metabolism, 405
Tetraodon nigroviridis, 159
 Thermal hysteresis, 290
 Thick filament, 238

 Thrombin-like enzymes, 334
 Thyroid hormone receptor, 503
 TIMP-3, 395
 TIMP-4, 395
 Tissue distribution, 159
 Tissues specificity, 152
 Transactivation activity, 503
 Transferrin, 301
 Triacylglycerol level, 57
 Triolein, 57
 Trypsin, 47
 Tuna, 47
 Tunicate, 343
 Turkey, 301
 Twitchin, 238
 Two-dimensional gel electrophoresis, 451
 Tyrosine, 180
 Tyrosine phosphorylation, 311, 382

 Ultrastructure, 215, 271
Umbrina cirrosa, 137
 Unsaturation, 496

 Vascular tone, 510
 Viscera, 47
 Viviparity, 382
V_{max}, 86

 Warm acclimation, 290
 Wheat germ diets, 229
 White adipose tissue, 70
 Whole mount in situ hybridization, 395

AUTHOR INDEX

Vol. 144B, Nos. 1-4

- Adachi, S., 503
Adamowicz, A., 223
Albentosa, M., 229
Andersen, Ø., 128
Andersen, O., 188
Andrade, L.R., 215
Arnason, J.T., 94
Autio, P., 432
Awad, R., 94
- Bagnyukova, T.V., 283
Bailly, X., 319
Ballatori, N., 167
Balogh, K., 496
Bang, I.S., 199
Bastrop, R., 451
Bédouet, L., 532
Bell, J.G., 245
Benfey, T.J., 128
Benjakul, S., 47
Benjakul, S., 544
Berland, S., 532
Bjerkeng, B., 351
Bjorndal, K.A., 77
Blank, M., 451
Bouchard, S.S., 77
Boyer, J.L., 167
Braun, E.J., 263
Braun, E.J., 387
- Caballero, M.J., 57
Cai, S.-Y., 167
Calvo, E., 101
Camp, D.M., 271
Capurro, M.d.L., 101
Carr, J.A., 18
Cassady, C.J., 423
Chabasse, C., 319
Chapman, R.W., 38
Chávez, E., 442
Chen, Y., 423
Choe, K.P., 510
Choi, Y.S., 365
Ciuraskiewicz, J., 301
Conceição, L.E.C., 57
- De Barros, C.M., 215
De Brabander, H.F., 405
De Silva, S.S., 110
Denbow, D.M., 359
DeVries, A.L., 290
- Dick, J.R., 245
Diffie, G.M., 271
Dinis, M.T., 57
Du Preez, L., 18
Dubost, L., 532
Duplat, D., 532
Dyachuk, V., 238
Dzugaj, A., 223
- Egginton, S., 372
Evans, D.H., 510
- Fang, W., 159
Fébel, H., 496
Fernández-Reiriz, M.J., 229
Fjæra, S.O., 351
Francis, D.S., 110
Fricker, G., 167
Fujita, T., 180
Funkenstein, B., 137
- Gahr, S.A., 472
Gandra, M., 215
Gao, Y., 478
García, N., 442
Garland Jr., T., 271
Gefroh, H.A., 38
Giesy, J.P., 18
Gill, T.A., 206
Gillen, C.M., 478
Gillespie, S., 423
Giusto, N.M., 311
Gizak, A., 223
Green, P., 343
Grzyb, K., 152
Guderley, H., 271
- Han, S.S., 199
Hatfield, M.J., 423
Hauton, D., 372
Havird, J.C., 510
Hayakawa, T., 413
Hebanowska, A., 70
Hecker, M., 18
Henson, J.H., 167
Herbert, J.F., 382
Homsí-Brandeburgo, M.I., 334
Hori, H., 413
Horn, P., 496
Houle-Leroy, P., 271
- Hwang, J.-H., 1
Hyndman, K.A., 510
- Izquierdo, M.S., 57
- James, A.A., 101
Janssen, C.R., 405
Jin, B.R., 365
Jin, Y., 290
Johansen, K.A., 119
Johansen, K.A., 520
Jones, P.D., 18
Jürss, K., 451
- Kajita, M., 180
Kang, C.S., 199
Kawakami, Y., 503
Kendall, R.J., 18
Kim, I., 365
Kiselev, K., 238
Kishimura, H., 47
Kitano, T., 503
Kivimäki, A., 432
Klimek, J., 70
Klomklao, S., 47
Kozłowski, E.O., 215
Kuo, A.Y., 359
- Labarta, U., 229
Labbé, C., 29
Lai, C.-Y., 11
Lall, S.P., 206
Lall, S.P., 488
Lanier, T.C., 544
Le Bail, P.-Y., 29
Le Ny, K., 532
Lee, C.-Y., 11
Lee, J.C., 359
Lee, K.S., 365
Li, S., 463
Li, Z., 423
Lopez, E., 532
Lundqvist, M.L., 38
Lushchak, V.I., 283
Luty, A., 343
- Maccatrozzo, L., 137
MacGlaughlin, P., 245
Magnin, G., 359
Mancia, A., 38

- Marie, A., 532
 Marinotti, O., 101
 Martínez-Abundis, E., 442
 Matsuoka, M.P., 128
 Matthews, S.J., 206
 Mauger, P.-E., 29
 McLeod, A., 188
 McMurtry, J.P., 387
 Meng, Q., 463
 Mézes, M., 496
 Middleton, D.L., 38
 Miller, D.S., 167
 Miyamoto, H., 254
 Mizuta, S., 1
 Mizuta, S., 395
 Monteyne, E., 405
 Morais, S., 57
 Morimoto, K., 254
 Murphy, M.B., 18

 Nagai, K., 254
 Nair, S., 343
 Nirmala, X., 101
 Nogalska, A., 70
 Noppe, H., 405

 Odintsova, N., 238
 Ohta, H., 503
 Oku, H., 326
 Okumura, T., 326
 Olczak, M., 301
 Olsen, R.E., 488
 Overturf, K., 119
 Overturf, K., 520

 Park, J.-W., 18
 Pascarelli, B.M.O., 215
 Pasquaré, S.J., 311
 Patruno, M., 137
 Pavão, M.S.G., 215
 Pavón, N., 442
 Péduzzi, J., 532
 Peltonen, L.M., 432
 Pereira Ramos, O.H., 334
 Pérez-Camacho, A., 229
 Piermarini, P.M., 510
 Poelmans, S., 405

 Radaelli, G., 137
 Radford, J., 343
 Raftos, D., 343
 Rawdkuen, S., 544
 Reith, M., 128
 Rexroad III, C.E., 472
 Richards, S.B., 372
 Romano, T.A., 38
 Romvári, R., 496
 Rose, R.E., 510
 Ross, N.W., 206
 Ross, N.W., 488
 Rousseau, M., 532
 Rousselot, M., 319
 Runnegar, M., 167
 Rusconi, F., 532

 Saeki, H., 47
 Saha, M.R., 488
 Salvador, G.A., 311
 Sankari, S., 432
 Sano, H., 180
 Sardana, R.K., 94
 Schuller, K.A., 86
 Sealey, W.M., 520
 Selistre-de-Araujo, H.S., 334
 Seward, D.J., 167
 Shao, J.-Z., 159
 Shelud'ko, N., 238
 Shin, D.-H., 503
 Siegel, P.B., 359
 Simpson, B.K., 47
 Skjervold, P.O., 351
 Skorkowski, E.F., 152
 Sledzinski, T., 70
 Smith, E.E., 18
 Sohn, H.D., 365
 Solomon, K.R., 18
 Suzuki, T., 395
 Sweazea, K.L., 263
 Sweazea, K.L., 387
 Swierczynski, J., 70
 Szabó, A., 496

 Takiya, C.M., 215
 Takle, H., 188
 Thomas, P.M., 86

 Thompson, J.L., 86
 Thompson, M.B., 382
 Thomson, M., 382
 Tocher, D.R., 245
 Tokuda, M., 326
 Tomimoto, K., 413
 Trudeau, V.L., 94
 Tsukamoto, H., 395
 Turchini, G.M., 110

 Umino, T., 326

 Van Der Kraak, G., 18
 Van Nes, S., 128
 Veiseth, E., 351
 Verheyden, K., 405
 Verslycke, T., 405
 Vincent, J.B., 423
 Visessanguan, W., 47
 Visessanguan, W., 544
 Vitorino-Cardoso, A.F., 334

 Warr, G.W., 38
 Wątarek, W., 301
 Weber, G.M., 472
 Wen, Y., 159
 Wheatly, M.G., 478
 Wu, S.-H., 11

 Xiang, L.-X., 159
 Xie, L., 463

 Yamauchi, K., 503
 Yano, M., 254
 Yeh, F.-C., 11
 Yoe, S.M., 199
 Yokoyama, Y., 1
 Yokoyama, Y., 395
 Yoon, H.J., 365
 Yoshinaka, R., 1
 Yoshinaka, R., 395

 Zal, F., 319
 Zhang, R., 463